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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,585	09/21/2001	Fuyuhiko Inoue	10636-007-999	5456

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EXAMINER

LYONS, MICHAEL A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 12/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/960,585

Applicant(s)

INOUE, FUYUHIKO

Examiner

Michael A. Lyons

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-13 and 19-20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 14-16 and 18 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loopstra et al (WO 98/40791).

Regarding claim 1, Loopstra (Fig. 3) discloses a base 47, a first stage 21 movable in a plane on the base, and a second stage 23 also movable in a plane on the base. Loopstra's device, however, fails to teach a plurality of interferometers with a corresponding plurality of mirrors attached to the stages to allow continual positional measurements of the stages of the device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a plurality of interferometers to the base and a corresponding plurality of mirrors to the stages of the device of Loopstra in the claimed configuration to facilitate the continual measurement of the position of the stages of the device. It is well known in the art to use interferometers as precise measurement means for positional measurements of movable tables and stages.

As for claims 2 and 3, making one stage of the device differ in dimension from the other stage is well known in the art.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loopstra et al (WO 98/40791).

Regarding claim 14, Loopstra (Fig. 3) discloses a base 47, a first stage 21 movable in a plane on the base, and a second stage 23 also movable in a plane on the base. Loopstra's device, however, fails to teach a plurality of interferometers with a corresponding plurality of mirrors attached to the stages to allow continual positional measurements of the stages of the device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a plurality of interferometers to the base and a corresponding plurality of mirrors to the stages of the device of Loopstra in the claimed configuration to facilitate the continual measurement of the position of the stages of the device. It is well known in the art to use interferometers as precise measurement means for positional measurements of movable tables and stages.

As for claim 15, making one of the mirrors larger than the other is well known in the art.

As for claim 16, making the second mirror approximately equal in size to the second stage is well known.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Loopstra et al (WO 98/40791).

Regarding claim 18, Loopstra (Fig. 3) discloses a base 47, a first stage 21 movable in a plane on the base, and a second stage 23 also movable in a plane on the base. Loopstra's device, however, fails to teach a plurality of interferometers with a corresponding plurality of mirrors attached to the stages to allow continual positional measurements of the stages of the device and the size difference wherein the second stage is larger than the first.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the second stage in a manner that it is larger in size than the first and to

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add a plurality of interferometers to the base and a corresponding plurality of mirrors to the stages of the device of Loopstra in the claimed configuration to facilitate the continual measurement of the position of the stages of the device. It is well known in the art to change the size of an element of a device to make it larger or smaller as required. It is also well known in the art to use interferometers as precise measurement means for positional measurements of movable tables and stages.

Allowable Subject Matter

Claims 4-7 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-13 and 19-20 are allowed in view of the prior art.

As to claims 8 and 19, the prior art of record, taken alone or in combination, fails to disclose or render obvious the moveable mirrors and the interferometer configuration wherein the mirrors are movable to allow for continual positional measurements of the stages when one of the stages eclipses interferometers from detecting the location of the second stage in addition to the corresponding method for using the device, in combination with the rest of the limitations of claims 8 and 19.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 703-305-1933. The examiner can normally be reached on Monday thru Thursday.

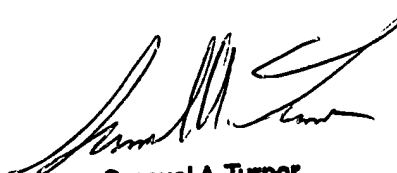
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 703-308-4877. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

MAL
December 10, 2002



Samuel A. Turner
Primary Examiner